WHAT IS CLAIMED IS:

1. A process for xenotransplantation comprising introducing into a human patient in need thereof an organ, tissue or cells derived from a swine free of endogenous retroviruses (PERV) that are infectious to humans.

2. The process of claim 1 wherein the swine is a miniature swine.

3. The process of claim 2 wherein the miniature swine is characterized by the DD haplotype.

4. A process for preventing a disease in a human patient comprising introducing into a human patient at risk of said disease the organ, tissue or cells used in claim 1.

5. The process of claim 4 wherein said swine is a miniature swine is characterized by the DD haplotype.

6. The process of claim 5 wherein said miniature swine is characterized by the DD haplotype.

7. The process of claim 1 wherein the organ or tissue is a therapeutically effective amount of a sample of cells.

8. The process of claim 7 wherein the cells are stem cells.

9. A process for treating a disease in a human patient afflicted with said disease comprising introducing into a human patient in need thereof the organ, tissue or cells used in claim 1.

10. The process of claim 9 wherein the swine are miniature swine.

11. The process of claim 10 wherein the miniature swine are of the DD haplotype.

12. The process of claim 9 wherein the organ or tissue is a therapeutically effective amount of a sample of cells.

13. The process of claim 12 wherein the cells are stem cells.

14. A process for screening animals for endogenous retroviral (ERV) DNA comprising the steps of:

(a) obtaining a sample of peripheral blood mononuclear cells (PBMC) from an animal to be tested and stimulating ERV expression in said cells by contacting said cells with a stimulatory amount of an ERV stimulating agent;

(b) contacting said stimulated cells of step (a) with a sample of uninfected indicator cells and co-culturing said cells so as to permit infection;

(c) repeating the procedure of steps (a) and (b) on separate aliquots of cells to form a second co-culture;

(d) combining the co-cultures produced by steps (b) and (c); and

(e) measuring reverse transcriptase activity in the cells of step (d)

whereby the presence of said reverse transcriptase activity is indicative of the presence of ERV DNA.

15. The process of claim 14 wherein the animal is a miniature swine.

16. The process of claim 14 wherein the ERV is a PERV.

27. The inbred swine of claim 26 wherein said swine is a miniature swine.

28. A process for producing a human-tropic ERV-free animal from parental animals at least one of which is human-tropic ERV-positive, comprising:

(a) mating a male and a female animal of the same species wherein at least of said animals is positive for a human-tropic ERV-locus and thereby producing offspring; and

(b) selecting offspring free of human-tropic ERV.

29. A process for producing a human-tropic ERV-free animal from parental animals at least one of which is human-tropic ERV-positive, comprising:

(a) mating a male and a female animal of the same species wherein at least one of said animals is positive for a human-tropic ERV-locus and thereby producing offspring;

(b) mating a male animal produced in (a) with a female animal produced in (a) wherein at least one of said male and female is positive for a human-tropic ERV-locus and wherein if both are positive for an ERV-locus then said male and female are not each positive for the same human-tropic ERV-locus; and

(c) selecting those offspring that are human-tropic ERV-free.

30. The process of claim 29 wherein said animal is a swine.

31. The process of claim 30 wherein said animal is a miniature swine.

32. The process of claim 31 wherein said miniature swine are of the DD haplotype.

33. The process of claim 29 wherein said ERV is a PERV.

34. The process of claim 29 wherein said human-tropic ERV loci are determined using oligonucleotide probes.

35. The process of claim 30 wherein both male and female swine mated in step (a) are human-tropic PERV-positive and wherein the offspring of (a) that are mated in (b) are each human-tropic PERV-positive animals.

36. The process of claim 35 wherein said swine are miniature swine.

37. The process of claim 36 wherein said miniature swine are of the DD haplotype.

38. The process of claim 35 wherein the swine mated in (a) are each positive for all but one human-tropic PERV-locus, said male and female so mated are each negative for a different PERV-locus, and the male and female of each mated pair of offspring mated in (b) are each, positive, if at all, for a set of human-tropic PERV-loci with no human-tropic PERV loci in common.

39. The process of claim 38 wherein step (a) comprises mating pigs carrying PERV 1, 2, 4 and pigs carrying PERV 1, 2, 3 to produce offspring and step (b) comprises mating offspring of (a) carrying PERV 3, 4 with the step (a) 1, 2 positive offspring.

40. The process of claim 39 wherein said pigs in step (a) carrying PERV 1, 2, 4 are male pigs and said pigs in step (a) carrying PERV 1, 2, 3 are female pigs.

41. The process of claim 39 wherein said pigs in (b) carrying PERV 3, 4 are male pigs and said pigs in step (b) carrying PERV 1, 2 are female pigs.

42. The process of claim 39 wherein said pigs in step (a) carrying PERV 1, 2, 4 are male pigs and said pigs in step (a) carrying PERV 1, 2, 3 are female pigs and wherein said pigs in (b) carrying PERV 3, 4 are male pigs and said pigs in step (b) carrying PERV 1, 2 are female pigs.

43. The process of claim 42 wherein said swine is a miniature swine.

44. The process of claim 43 wherein said miniature swine are of the DD haplotype.

17. The process of claim 14 wherein the indicator cells are human cells.

18. The process of claim 15 wherein the reverse transcriptase is assayed using a product-enhanced reverse transcriptase (PERT) assay.

19. The process of claim 14 wherein the ERV stimulatory agent is phytohemagglutinin (PHA) or PMA;

20. The process of claim 14 wherein step (c) is carried out 24 hours after step (b).

21. The process of claim 14 wherein step (d) is carried out at least about 7 days after step (b).

22. The process of claim 14 wherein the cells present in the co-culture are in a ratio of about 5:1 for PBMC:indicator cells.

23. The process of claim 22 wherein the number of indicator cells is about 2 X 10^5 and the number of PBMC is about 10^6.

24. The process of claim 14 wherein said sufficient period of time for stimulation is at least about 3 days.

25. The process of claim 15 wherein the miniature swine are of the ~~DD haplotype~~.

Sub a' 26. An inbred swine of ~~DD haplotype~~ wherein said miniature swine is inbred so as to remove infectious PERV gene sequences from the genome ~~thereof~~.